APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/811,878	03/30/2004	Akihisa Sato	1213.43685X00	2479

24956   7590   11/27/2007

MATTINGLY, STANGER, MALUR & BRUNDIDGE, P.C.
1800 DIAGONAL ROAD
SUITE 370
ALEXANDRIA, VA 22314

EXAMINER
ADAMS, CHARLES D

ART UNIT	PAPER NUMBER
2164	

MAIL DATE	DELIVERY MODE
11/27/2007	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

-- *The MAILING DATE of this communication appears on the cover sheet with the correspondence address* --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE <u>3</u> MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.
- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
  Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on <u>14 September 2007</u>.

2a)☒ This action is **FINAL**.   2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1 and 4-10* is/are pending in the application.

    4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) *1, 4-10* is/are allowed.

6)☒ Claim(s) _____ is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

    Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

    a)☐ All   b)☐ Some * c)☐ None of:

      1.☐ Certified copies of the priority documents have been received.

      2.☐ Certified copies of the priority documents have been received in Application No. _____.

      3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

    * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1)☐ Notice of References Cited (PTO-892)

2)☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3)☐ Information Disclosure Statement(s) (PTO/SB/08)
    Paper No(s)/Mail Date _____.

4)☐ Interview Summary (PTO-413)
    Paper No(s)/Mail Date. _____.

5)☐ Notice of Informal Patent Application

6)☐ Other: _____.

DETAILED ACTION

Remarks

1.   In response to communications filed on 14 September 2007, claims 1, 5-7, 9, and

·10 are amended. Claims 1 and 4-10 are pending in the application.

Claim Rejections - 35 USC § 112

2.   The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly
> claiming the subject matter which the applicant regards as his invention.

3.   Claims 1, 5-7, and 9 are rejected under 35 U.S.C. 112, second paragraph, as

being indefinite for failing to particularly point out and distinctly claim the subject matter

which applicant regards as the invention.

Claim 1 recites the limitation "Wherein in case there is no current amount of data

available to said application whose estimated amount of data needs to be calculated,

said estimated load calculation section calculates the estimated amount of data by

using a current amount of data of said application having an approximate current

amount of data". This limitation is unclear and indefinite. It is a conditional limitation that

operates when "there is no current amount of data available to said application".

However, to calculate an estimated amount of data, the limitation uses "a current

amount of data of said application having an approximate current amount of data". It is

unclear how the limitation can operate, since the limitation only works when "there is no

current amount of data available to said application", yet to calculate estimated data, "a

current amount of data of said application" is used.

Claims 5-7 and 9 recite this limitation as well, and are unclear for the same

reasons.

Claim Rejections - 35 USC § 103

4.   The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all

obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

5.   Claims 1 and 4-10 are rejected under 35 U.S.C. 103(a) as being unpatentable

over Chambliss et al. (US Pre-Grant Publication 2004/0003087) in view of Donze et al.

(US Pre-Grant Publication 2004/0054782), and further in view of Sekijima et al. (US

Patent 6,957,429).

As to claim 1, Chambliss et al. teaches:

An information processing apparatus which is used to operate a plurality of

applications to request data input/output to/from a storage (see paragraph [0044]);

Chambliss et al. does not explicitly teach wherein said storage comprises at least

one port

Donze et al. teaches explicitly wherein said storage comprises at least one port

(see paragraph [0035] and Figure 2)

Chambliss et al. as modified teaches and at least one array group including a

plurality of disk units (see Chambliss et al. paragraph [0044] and Donze et al. paragraph

[0035] and Figure 1);

Wherein said information processing apparatus accesses, via said at least one

port, a virtual area provided by said at least one array group (see Chambliss et al.

paragraph [0048] and Donze et al. paragraph [0034] and Figure 2. A virtual area is

created by the RAID group);

Wherein said storage and said information processing apparatus constitute an

access process section for processing an access request from an application (see

Chambliss et al. paragraph [0044]-[0047]);

Wherein said access process section includes at least one port and said at least

one array group (see Donze et al. Figure 6 and paragraph [0054]-[0055]);

Wherein said information processing apparatus comprises an access monitoring

section which monitors an access request for each of said applications (see Chambliss

et al. paragraphs [0046] and [0082]-[0083]); and

Wherein said management host comprises:

An acceptance section which accepts specification of a new application (see

Chambliss et al. paragraph [0083]);

A current load calculation section which calculates current amount of data

accessed from said application to said storage for each of said applications based on

information obtained by said access monitoring section (see Chambliss et al. paragraph

[0091] and Donze et al. paragraph [0055])

An estimated load calculation section which calculates each of an estimated amount of data accessed from said application to said storage in said port (see Donze et al. paragraphs [0054] and [0062]) and an estimated amount of data in said array group, in case of addition of said new application based on current amount of data calculated by said current load calculation section and based on information obtained by said access monitoring section (see Chambliss et al. paragraphs [0063]-[0071]. Configuration rates can be set that limit "amounts of data" or rates of data transfer. Also see paragraph [0075] and [0082]-[0083]. "The balance vector value of a service class denotes a level of credit defining how much usage of the associated resource can be performed immediately without causing the usage limit to be exceeded. A request is admitted into servicing by the storage system only when the balance vector values exceed the predicated resource usage of that request, and for each request that is admitted into serving, the balance vector values are reduced by the request's resource usage", paragraph [0082]),

Wherein in case there is no current amount of data available to said application whose estimated amount of data needs to be calculated, said estimated load calculation section calculates the estimated amount of data by using a current amount of data of said application having an approximate current amount of data (see Donze et al. paragraph [0059]-[0060]. There is no current amount of data available, so Donze et al. accesses agents that computer the estimated amount of data by gathering information from components along the data path (Figure 7, element 136)); and

A load data output section which outputs each of the estimated amount of data in said port (see <u>Donze et al</u>. paragraphs [0055]-[0066])

<u>Chambliss et al</u>. as modified does not explicitly teach and the estimated amount of data in said array group calculated by said estimated load calculation section.

<u>Sekijima et al</u>. teaches and the estimated amount of data in said array group calculated by said estimated load calculation section (see 3:53-59),

<u>Chambliss et al</u>. as modified teaches wherein in case said information processing apparatus accesses, via a specific port, said virtual area provided by said array group corresponding to said specific port (see <u>Sekijima et al</u>. 6:45-52), said load data output section outputs a combination of ports and array groups (see <u>Sekijima et al</u>. Figure 1 and 11:35-55. A user may access a specific storage system (service management unit 201), which then can report server usage information on other servers. A storage system is a 'combination of ports and array groups', as it contains both ports and array groups. See <u>Sekijima et al</u>. Figure 1 (the servers are connected to a network and thus need ports) and <u>Chambliss et al</u>. paragraph [0044] (storage systems can have multiple drives)).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to have modified <u>Chambliss et al</u>. by the teaching of <u>Donze et al</u>., since <u>Donze et al</u>. teaches that "Further, by stitching and mapping the components of both the application and storage domain, the components may be included in a comprehensive risk analysis, performance evaluation, and modeling and simulation for system upgrading" (see paragraph [0006]).

Therefore, it would have been obvious to one of ordinary skill in the art at the
time the invention was made to have further modified Chambliss et al. by the teaching
of Sekijima et al., since Sekijima et al. teaches that "the present invention presents
users with a list of applicable services dynamically updated and enables the users to
specify selective combinations of the services. Thereby, the present invention provides
service users with the easy recognition of applicable services, flexible selection of
services to meet users' purposes, and smooth application of selected services to
relevant data" (see 2:47-53). In addition to this, it is well known in the art to output data
that has been calculated by a method.

As to claim 4, Chambliss et al. as modified teaches:

Wherein each of said port and said array group includes a plurality of
configurations having similar functions (see Donze et al. Figures 1 and 6 and Chambliss
et al. paragraphs [0076]-[0077]);

Wherein said configurations for said at least one port and said at least one array
group comprise a configuration information storage section which stores information
about available combinations capable of processing said access request (see
Chambliss et al. paragraphs [0063]-[0071], [0073]-[0075], and [0107]-[0109]); and

Wherein said estimated load calculation section calculates estimated amount of
data with respect to said available combinations of said configurations for said at least
one port and said at least one array group (see Chambliss et al. paragraph [0082]-
[0083]).

As to claim 5, <u>Chambliss et al</u>. teaches:

A storage which stores a database (see paragraph [0044] and [0058]-[0060].

There is information stored by address, therefore, the storage is a database)

<u>Chambliss et al</u>. does not explicitly teach and comprises at least one port

<u>Donze et al</u>. teaches and comprises at least one port (see paragraph [0035] and

Figure 2);

<u>Chambliss et al</u>. as modified teaches and at least one array group including a

plurality of disk units (see <u>Chambliss et al</u>. paragraph [0044] and <u>Donze et al</u>. paragraph

[0035] and Figure 1);

A plurality of information processing apparatuses which are used to operate an

application requesting data input/output to/from said storage and access, via said at

least one port, a virtual area provided by said at least one array group (see paragraph

[0044] and Figure 2. Also see <u>Donze et al</u>. Figure 1 and paragraph [0026)); and

A management host which manages said storage (see <u>Chambliss et al</u>.

paragraphs [0063]-[0071], [0075], and [0082]-[0083]),

Wherein each of said information processing apparatuses comprises:

A database management system which processes an access request from said

application to said database and includes said at least one port and said at least one

array group (see <u>Chambliss et al</u>. paragraph [0044]-[0047] and <u>Donze et al</u>. Figure 6

and paragraphs [0054]-[0055]);

An access monitoring section which monitors an access request sent from said

application to said database management system and obtains information about said

access request (see Chambliss et al. paragraphs [0046] and [0082]-[0083]); and

An access information output section which collects information about said

access request and adds up said information correspondingly to said application (see

Chambliss et al. paragraph [0044]-[0046] and [0083]), and

Wherein said management host comprises:

An acceptance section which accepts specification of a new application (see

Chambliss et al. paragraph [0083]);

A current load calculation section which calculates current amount of data

accessed from said application to said storage for each of said applications based on

information obtained by said access monitoring section (see Chambliss et al. paragraph

[0091] and Donze et al. paragraph [0055]);

An estimated load calculation section which calculates each of an estimated

amount of data accessed from said application to said storage in said port (see Donze

et al. paragraphs [0054] and [0062]) and an estimated amount of data in said array

group, calculated by said current load calculation section and based on information

obtained by said access monitoring section (see Chambliss et al. paragraphs [0063]-

[0071]. Also see paragraph [0075] and [0082]-[0083]),

Wherein in case there is no current amount of data available to said application

whose estimated amount of data needs to be calculated, said estimated load calculation

section calculates the estimated amount of data by using current amount of data of said

application having an approximate current amount of data (see Donze et al. paragraph

[0059]-[0060]. There is no current amount of data available, so Donze et al. accesses

agents that computer the estimated amount of data by gathering information from

components along the data path (Figure 7, element 136));

A load data output section which outputs each of the estimated amount of data in

said port (see Donze et al. paragraphs [0055]-[0066])

Chambliss et al. does not explicitly teach and the estimated amount of data in

said array group calculated by said estimated load calculation section;

Sekijima et al. teaches and the estimated amount of data in said array group

calculated by said estimated load calculation section (see 3:53-59),

Chambliss et al. as modified teaches wherein in case said information

processing apparatus accesses, via a specific port, said virtual area provided by said

array group corresponding to said specific pot, said load data output section outputs a

combination of available ports and array groups (see Sekijima et al. Figure 1 and 11:35-

55 and Chambliss et al. paragraph [0044]); and

a configuration setup section which sets up a change in configuration of said

storage based on the estimated amount of data calculated by said estimated load

calculation section (see Chambliss et al. paragraphs [0082]-[0083]. The amount of

available storage will be changed upon the addition of a new program based on the

estimated cost of that program).

Therefore, it would have been obvious to one of ordinary skill in the art at the

time the invention was made to have modified Chambliss et al. by the teaching of

Donze et al., since Donze et al. teaches that "Further, by stitching and mapping the components of both the application and storage domain, the components may be included in a comprehensive risk analysis, performance evaluation, and modeling and simulation for system upgrading" (see paragraph [0006]).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to have further modified Chambliss et al. by the teaching of Sekijima et al., since Sekijima et al. teaches that "the present invention presents users with a list of applicable services dynamically updated and enables the users to specify selective combinations of the services. Thereby, the present invention provides service users with the easy recognition of applicable services, flexible selection of services to meet users' purposes, and smooth application of selected services to relevant data" (see 2:47-53). In addition to this, it is well known in the art to output data that has been calculated by a method.

As to claim 6, Chambliss et al. teaches:

A storage which stores a file (see paragraph [0044] and [0058]-[0060])

Chambliss et al. does not explicitly teach and comprises at least one port

Donze et al. teaches and comprises at least one port (see paragraph [0035] and Figure 2)

Chambliss et al. as modified teaches and at least one array group including a plurality of disk units (see Chambliss et al. paragraph [0044] and Donze et al. paragraph [0035] and Figure 1);

A plurality of information processing apparatuses which are used to operate an application requesting input/output of data stored in a file to/from said storage and access, via said at least one port, a virtual area provided by said at least one array group (see paragraph [0044] and Figure 2. Also see Donze et al. Figure 1 and paragraph [0026); and

A management host which manages said storage (see Chambliss et al. paragraphs [0063]-[0071], [0075], and [0082]-[0083]),

Wherein each of said information processing apparatuses comprises:

A file system which processes an access request from said application to said file and includes said at least one port and said at least one array group (see Chambliss et al. paragraph [0044]-[0047] and Donze et al. Figure 6 and paragraphs [0054]-[0055]);

An access monitoring section which monitors an access request sent from said file system to said storage and obtains information about said access request (see Chambliss et al. paragraphs [0046] and [0082]-[0083]); and

An access information output section which collects information about said access request and adds up said information correspondingly to said application (see Chambliss et al. paragraph [0044]-[0046] and [0083]),

wherein said management host comprises:

an acceptance section which accepts specification of a new application (see Chambliss et al. paragraph [0083]);

a current load calculation section which calculates current amount of data for each of said applications based on information obtained by said access monitoring section (see <u>Chambliss et al</u>. paragraph [0091] and <u>Donze et al</u>. paragraph [0055]);

an estimated load calculation section which calculates each of an estimated amount of data accessed from said application to said storage in said port (see <u>Donze et al</u>. paragraphs [0054] and [0062]) and an estimated amount of data in said array group, in case of addition of said new application based on current amount of data calculated by said current load calculation section and based on information obtained by said access monitoring section (see <u>Chambliss et al</u>. paragraphs [0063]-[0071]. Also see paragraph [0075] and [0082]-[0083]),

wherein in case there is no current amount of data available to said application whose estimated amount of data needs to be calculated, said estimated load calculation section calculates the estimated amount of data by using a current amount of data of said application having an approximate current amount of data (see <u>Donze et al</u>. paragraph [0059]-[0060]. There is no current amount of data available, so <u>Donze et al</u>. accesses agents that computer the estimated amount of data by gathering information from components along the data path (Figure 7, element 136));

a load data output section which outputs the estimated amount of data in said port (see <u>Donze et al</u>. paragraphs [0055]-[0066])

<u>Chambliss et al</u>. does not explicitly teach and the estimated amount of data in said array group calculated by said estimated load calculation section; and

Sekijima et al. teaches and the estimated amount of data in said array group

calculated by said estimated load calculation section (see 3:53-59),

Chambliss et al. as modified teaches wherein in case said information processing

application accesses, via a specific port, said virtual area provided by said array group

corresponding to said specific port, said load data output section outputs a combination

of available ports and array groups (see Sekijima et al. Figure 1 and 11:35-55 and

Chambliss et al. paragraph [0044]); and

a configuration setup section which sets up a change in configuration of said

storage based on estimated amount of data calculated by said estimated load

calculation section (see Chambliss et al. paragraphs [0082]-[0083]. The amount of

available storage will be changed upon the addition of a new program based on the

estimated cost of that program).

Therefore, it would have been obvious to one of ordinary skill in the art at the

time the invention was made to have modified Chambliss et al. by the teaching of

Donze et al., since Donze et al. teaches that "Further, by stitching and mapping the

components of both the application and storage domain, the components may be

included in a comprehensive risk analysis, performance evaluation, and modeling and

simulation for system upgrading" (see paragraph [0006]).

Therefore, it would have been obvious to one of ordinary skill in the art at the

time the invention was made to have further modified Chambliss et al. by the teaching

of Sekijima et al., since Sekijima et al. teaches that "the present invention presents

users with a list of applicable services dynamically updated and enables the users to

specify selective combinations of the services. Thereby, the present invention provides

service users with the easy recognition of applicable services, flexible selection of

services to meet users' purposes, and smooth application of selected services to

relevant data" (see 2:47-53). In addition to this, it is well known in the art to output data

that has been calculated by a method.

As to claim 7, Chambliss et al. teaches a control method of an information

processing system, the system comprising an information processing apparatus which

is used to operate a plurality of applications to request data input/output to/from a

storage and a management host which manages said storage (see paragraph [0044]),

Chambliss et al. does not explicitly teach wherein said storage comprises at least

one port;

Donze et al. teaches wherein said storage comprises at least one port (see

paragraph [0035] and Figure 2)

Chambliss et al. as modified teaches and at least one array group including a

plurality of disk units (see Chambliss et al. paragraph [0044] and Donze et al. paragraph

[0035] and Figure 1),

Wherein said information processing apparatus accesses, via said at least one

port, a virtual area provided by said at least one array group(see Chambliss et al.

paragraph [0048] and Donze et al. paragraph [0034] and Figure 2. A virtual area is

created by the RAID group),

Said method comprises the steps of:

Monitoring an access request from each of said applications (see <u>Chambliss et al</u>. paragraphs [0046] and [0082]-[0083]);

Obtaining information about said access request for each of said applications (see <u>Chambliss et al</u>. paragraphs [0046] and [0082]-[0083]);

Calculating current amount of data accessed from each of said applications to said storage for each of said applications, in case of addition of said new application based on information about said obtained access request (see <u>Chambliss et al</u>: paragraph [0091] and <u>Donze et al</u>. paragraph [0055])

Accepting specification of a new application (see <u>Chambliss et al</u>. paragraph [0083]);

Calculating estimated amount of data accessed from each of said applications to said storage for each said applications, in case of addition of said new application based on information about said obtained access request (see <u>Chambliss et al</u>. paragraphs [0082]-[0083]);

Calculating the estimated amount of data by using a current amount of data of said application having an approximate current amount of data, in case there is no current amount of data available to said application whose estimated amount of data needs to be calculated (see <u>Donze et al</u>. paragraph [0059]-[0060]. There is no current amount of data available, so <u>Donze et al</u>. accesses agents that computer the estimated amount of data by gathering information from components along the data path (Figure 7, element 136));

Calculating each of an estimated amount of data in said port (see <u>Donze et al</u>.

paragraphs [0054] and [0062]) and an estimated amount of data in said array group in

case of addition of said new application based on said calculated current data and

information about said obtained access request (see <u>Chambliss et al</u>. teaches

paragraphs [0063]-[0071]. Also see paragraph [0075] and [0082]-[0083]);

Outputting said calculated each of the estimated amount of data in said port (see

<u>Donze et al</u>. paragraphs [0055]-[0066]) and

<u>Chambliss et al</u>. as modified does not teach and the estimated amount of data in

array group

<u>Sekijima et al</u>. teaches and the estimated amount of data in array group (see

3:53-59); and

<u>Chambliss et al</u>. as modified teaches:

Outputting a combination of available ports and array groups, in case said

information processing apparatus accesses, via a specific port, said virtual area

provided by an array group corresponding to said specific port (see <u>Sekijima et al</u>.

Figure 1 and 11:35-55 and <u>Chambliss et al</u>. paragraph [0044]).

Therefore, it would have been obvious to one of ordinary skill in the art at the

time the invention was made to have modified <u>Chambliss et al</u>. by the teaching of

<u>Donze et al</u>., since <u>Donze et al</u>. teaches that "Further, by stitching and mapping the

components of both the application and storage domain, the components may be

included in a comprehensive risk analysis, performance evaluation, and modeling and

simulation for system upgrading" (see paragraph [0006]).

Therefore, it would have been obvious to one of ordinary skill in the art at the

time the invention was made to have further modified Chambliss et al. by the teaching

of Sekijima et al., since Sekijima et al. teaches that "the present invention presents

users with a list of applicable services dynamically updated and enables the users to

specify selective combinations of the services. Thereby, the present invention provides

service users with the easy recognition of applicable services, flexible selection of

services to meet users' purposes, and smooth application of selected services to

relevant data" (see 2:47-53). In addition to this, it is well known in the art to output data

that has been calculated by a method.

As to claim 8, Chambliss et al. as modified teaches wherein said estimated

amount of data is calculated in case of addition of a new application for each of said at

least one port and said at least one array group to process in series and said access

request and for available combinations of configurations of said at least one port and

said at least one array group (see Chambliss et al. paragraphs [0044]-[0046]. The

access process section can include the storage drives, and the gateways. Also se

paragraphs [0088] and [0089]. Requests can be added to a delay queue, and

processed 'in series' that way).

As to claim 9, Chambliss et al. teaches a machine readable medium tangibly

embodying at least one sequence of instruction for +calculating load data in an

information processing system, the system comprising an information processing

apparatus which is used to operate a plurality of applications to request data

input/output to/from a storage and a management host which manages said storage

(see paragraph [0044]-[0046] and [0083]),

Chambliss et al. does not explicitly teach wherein said storage comprises at least

one port

Donze et al. teaches wherein said storage comprises at least one port (see

paragraph [0035] and Figure 2)

Chambliss et al. as modified teaches and at least one array group including a

plurality of disk units (see Chambliss et al. paragraph [0044] and Donze et al. paragraph

[0035] and Figure 1),

Wherein said information processing apparatus accesses, via said at least one

port, a virtual area provided by said at least one array group (see Chambliss et al.

paragraph [0048] and Donze et al. paragraph [0034] and Figure 2. A virtual area is

created by the RAID group),

Wherein the sequence of instruction, when executed, causes the management

host to: (see Chambliss et al. paragraph [0044]-[0046] and [0083])

monitor an access request from said application and obtaining information about

said access request for each of said applications (see Chambliss et al. paragraphs

[0046] and [0082]-[0083]);

calculate current amount of data accessed from said application to said storage

for each of said applications based on information about said obtained access request

(see Chambliss et al. paragraph [0091] and Donze et al. paragraph [0055]);

accept specification of a new application (see <u>Chambliss et al</u>. paragraph [0083]);

calculate an estimated amount of data accessed from said application to said

storage for each of said applications, in case of addition of said new application based

on information about said obtained access request (see <u>Chambliss et al</u>. paragraphs

[0082]-[0083]);

calculate the estimated amount of data by using a current amount of data of said

application having an approximate current amount of data, in case there is no current

amount of data available to said application whose estimated amount of data needs to

be calculated (see <u>Donze et al</u>. paragraph [0059]-[0060]. There is no current amount of

data available, so <u>Donze et al</u>. accesses agents that computer the estimated amount of

data by gathering information from components along the data path (Figure 7, element

136));

calculate each of an estimated amount of data in said port (see <u>Donze et al</u>.

paragraphs [0054] and [0062]) and an estimated amount of data in said array group in

case of addition of said new application based on said calculated current amount of

data and information about said obtained access request (see <u>Chambliss et al</u>. teaches

paragraphs [0063]-[0071]. Also see paragraph [0075] and [0082]-[0083]); and

output said calculated estimated amount of data in said port (see <u>Donze et al</u>.

paragraphs [0055]-[0066]) and

<u>Chambliss et al</u>. does not teach and said estimated amount of data in said array

group.

Sekijima et al. teaches and said estimated amount of data in said array group

(see 3:53-59); and

Chambliss et al. as modified teaches:

Output a combination of available ports and array groups, in case said

information processing apparatus accesses, via a specific port, said virtual area

provided by an array group corresponding to said specific port (see Sekijima et al.

Figure 1 and 11:35-55 and Chambliss et al. paragraph [0044]).

Therefore, it would have been obvious to one of ordinary skill in the art at the

time the invention was made to have modified Chambliss et al. by the teaching of

Donze et al., since Donze et al. teaches that "Further, by stitching and mapping the

components of both the application and storage domain, the components may be

included in a comprehensive risk analysis, performance evaluation, and modeling and

simulation for system upgrading" (see paragraph [0006]).

Therefore, it would have been obvious to one of ordinary skill in the art at the

time the invention was made to have further modified Chambliss et al. by the teaching

of Sekijima et al., since Sekijima et al. teaches that "the present invention presents

users with a list of applicable services dynamically updated and enables the users to

specify selective combinations of the services. Thereby, the present invention provides

service users with the easy recognition of applicable services, flexible selection of

services to meet users' purposes, and smooth application of selected services to

relevant data" (see 2:47-53). In addition to this, it is well known in the art to output data

that has been calculated by a method..

As to claim 10, <u>Chambliss et al.</u> as modified teaches wherein said sequence of instruction that causes the management host to calculate the estimated amount of data, said sequence of instruction further causes the management host to calculate the estimated amount of data in case of addition of a new application for each of said at least one port and said at least one array group to process in series said access request and for available combinations of configurations of said at least one port and said at least one array group (see <u>Chambliss et al.</u> paragraphs [0044]-[0046]. The access process section can include the storage drives, and the gateways. Also se paragraphs [0088] and [0089]. Requests can be added to a delay queue, and processed 'in series' that way).

Response to Arguments

6.   Applicant's arguments filed 14 September 2007 have been fully considered but they are not persuasive.

Applicant argues that the references of record do not teach "an estimated load calculation section which calculates each of an estimated amount of data accessed from said application to said storage in said port and an estimated amount of data in said array group, in case of addition of said new application based on current amount of data calculated by said current load calculation section and based on information obtained by said access monitoring section, wherein in case there is no current amount

of data available to said application whose estimated amount of data needs to be

calculated, said estimated load calculation section calculates the estimated amount of

data by using a current amount of data of said application having an approximate

current amount of data".

In response to this argument, the Examiner notes that Donze et al. in view of

Chambliss et al. teaches "an estimated load calculation section which calculates each of

an estimated amount of data accessed from said application to said storage in said port"

(see Donze et al. paragraphs [0054] and [0062]) "and an estimated amount of data in

said array group, in case of addition of said new application based on current amount of

data calculated by said current load calculation section and based on information

obtained by said access monitoring section" (see Chambliss et al. paragraphs [0063]-

[0071]. Configuration rates can be set that limit "amounts of data" or rates of data

transfer. Also see paragraph [0075] and [0082]-[0083]. "The balance vector value of a

service class denotes a level of credit defining how much usage of the associated

resource can be performed immediately without causing the usage limit to be exceeded.

A request is admitted into servicing by the storage system only when the balance vector

values exceed the predicated resource usage of that request, and for each request that

is admitted into serving, the balance vector values are reduced by the request's

resource usage", paragraph [0082]),

As noted above in the 35 U.S.C. 112 rejection above, the last limitation is

unclear, as it involves the calculation of estimated amount of data by using a current

amount of data of said application when there is no current amount of data available to

said application. It appears that the limitation, upon the condition being met (when there

is no current amount of data available to said application), cannot be completed as it

requires the use of a current amount of data of said application. However, as pointed

out above, the combined references of <u>Chambliss et al</u>. in view of <u>Donze et al</u>. teaches

the above limitation to the best of the Examiner's understanding (see <u>Donze et al</u>.

paragraph [0059]-[0060]. There is no current amount of data available because <u>Donze</u>

<u>et al</u>. must access agents that computer the estimated amount of data by gathering

information from components along the data path (Figure 7, element 136)).

Applicant argues that the references of record do not teach the limitation "a load

data output section which outputs each of the estimated amount of data in said port and

the estimated amount of data in said array group calculated by said estimated load

calculation section, wherein in case said information processing apparatus accesses,

via a specific port, said virtual area provided by said array group corresponding to said

specific port, said load data output section outputs a combination of available ports and

array groups".

In response to this argument, Examiner notes that <u>Chambliss et al</u>., in view of

<u>Donze et al</u>., and further in view of <u>Sekijima et al</u>. teaches "A load data output section

which outputs each of the estimated amount of data in said port (see <u>Donze et al</u>.

paragraphs [0055]-[0066]) and the estimated amount of data in said array group

calculated by said estimated load calculation section (see <u>Sekijima et al</u>. 3:53-59),

wherein in case said information processing apparatus accesses, via a specific port,

said virtual area provided by said array group corresponding to said specific port (see

Sekijima et al. 6:45-52. A specific server containing a service management unit is

accessed), said load data output section outputs a combination of ports and array

groups (see Sekijima et al. Figure 1 and 11:35-55. A user may access a specific storage

system (service management unit 201), which then can report server usage information

on other servers. A storage system is a 'combination of ports and array groups', as it

contains both ports and array groups. See Sekijima et al. Figure 1 (the servers are

connected to a network and thus need ports) and Chambliss et al. paragraph [0044]

(storage systems can have multiple drives)). Therefore, Sekijima et al. teaches to

access, via a specific port, a virtual area provided by a storage array, said load data

output section outputting a combination of available ports and array groups. Also see

Donze et al. paragraph [0060] and Figures 6-7. A user may test and output the

estimated load data of a combination of available ports and storage arrays groups.

Conclusion

7.   **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time

policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE

MONTHS from the mailing date of this action. In the event a first reply is filed within

TWO MONTHS of the mailing date of this final action and the advisory action is not

mailed until after the end of the THREE-MONTH shortened statutory period, then the

shortened statutory period will expire on the date the advisory action is mailed, and any

extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of

the advisory action. In no event, however, will the statutory period for reply expire later

than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the

examiner should be directed to Charles D. Adams whose telephone number is (571)

272-3938. The examiner can normally be reached on 8:30 AM - 5:00 PM, M - F.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's

supervisor, Charles Rones can be reached on (571) 272-4085. The fax phone number

for the organization where this application or proceeding is assigned is 571-273-8300.

CHARLES RONES
SUPERVISORY PATENT EXAMINER